Application Serial No. 10/594,646   PATENT
Reply to Advisory Action of September 22, 2009   Docket: CU-5139

<u>**Amendments to the Claims**</u>

The listing of claims presented below will replace all prior versions, and listings,

of claims in the application.

<u>**Listing of claims:**</u>

1.   **(currently amended)** A method for activating a Multimedia Broadcast/Multicast

Service (MBMS) <u>in a network, the network comprising at least one Serving GPRS</u>

<u>Support Node (SGSN) for connecting user equipments (UE) via a radio access</u>

<u>network, at least one GGSN, and at least one BM-SC, wherein the SGSN and the</u>

<u>GGSN are operatively connected while the GGSN and the BM-SC are operatively</u>

<u>connected;</u>

<u>the method</u> comprising the steps:

~~a. sending a message which carries MBMS bearer capabilities of a user~~

~~equipment (UE) from the UE to a SGSN which the UE belongs to after passing~~

~~authorization;~~

<u>a1. creating, by a UE, a Packet Data Protocol (PDP) Context through</u>

<u>interaction with the network and sending a joining message to the network via an</u>

<u>SGSN which the UE belongs to; and</u>

<u>a2. after receiving the joining message, implementing, by the network, an</u>

<u>authorization to the UE, if the UE has passed the authorization, permitting the UE</u>

<u>to activate an MBMS UE Context and the UE sending a request for activating an</u>

<u>MBMS Context which carries MBMS bearer capabilities of the UE to the SGSN</u>

<u>which the UE belongs to</u>;

b. verifying<u>, by the SGSN before sending a Create MBMS Context Request,</u>

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whether the MBMS bearer capabilities of the UE are less than Required MBMS Bearer

Capabilities[[,]] if the SGSN has the Required MBMS Bearer Capabilities, **wherein the**

Required MBMS Bearer Capabilities are used to identify the maximum QoS ability

of the MBMS service requested by the UE; and

        c. rejecting**, by the SGSN,** [[a]] **the** request for activating an MBMS Context if

the MBMS bearer capabilities of the UE are less than the Required MBMS Bearer

Capabilities, or creating ~~an~~ **the** MBMS UE Context if the MBMS bearer capabilities of

the UE are not less than the Required MBMS Bearer Capabilities.

2.   **(cancelled).**

3.   (original) The method according to Claim 1, wherein rejecting the request for

activating the MBMS context in the step c, further comprises:

        c11. sending a rejection message which carries a rejection reason to the UE;

        c12. sending a failure message which carries a failure reason to a GGSN; and

        c13. receiving the failure message and deciding whether to return back to an IP

multicast access of a unicast mode.

4.   (original) The method according to Claim 1, wherein rejecting the request for

activating the MBMS context in the step c, further comprises:

        c21. sending a rejection message which carries a rejection reason to the UE; and

        c22. receiving the rejection message and reapplying to receive the MBMS bearer

service through a unicast mode.

5.   (original) The method according to Claim 1, rejecting the request for activating

the MBMS context in the step c, further comprises:

     c31. sending a failure message which carries a failure reason to a GGSN; and

     c32. receiving the failure message and deciding whether to return back to an IP

multicast access of a unicast mode.

6.   (original) The method according to Claim 1, rejecting the request for activating

the MBMS context in the step c, further comprises:

     c41. sending a failure message which carries a failure reason to a GGSN;

     c42. receiving the failure message and deciding whether to return back to an IP

multicast access of a unicast mode; and

     c43. sending a rejection message which carries a rejection reason to the UE.

7.   **(cancelled)**.

8.   (previously presented) The method according to Claim 3, further comprising:

     receiving the rejection message;

     activating a timer;

     verifying whether the GGSN having returned back to the IP multicast access of

the unicast mode before time-out of the timer, stopping the timer if the GGSN having

returned back to the IP multicast access of the unicast mode before time-out of the

timer, and reapplying to receive the MBMS bearer service through the unicast mode if

the timer being overtime.

9.   **(currently amended)** The method according to Claim 5 further comprising:

activating a timer after the step [[a]] a2 of sending the message which carries the

MBMS bearer capabilities of the UE, stopping the timer if the UE receives an accepting

message or the GGSN returns back to the IP multicast access of the unicast mode

before time-out of the timer, and reapplying to receive the MBMS bearer service through

the unicast mode if the timer being overtime.

10.   (original) The method according to Claim 4, wherein the rejection message

carries the Required MBMS Bearer Capabilities, the UE compares the Required MBMS

Bearer Capabilities with the MBMS bearer capabilities of the UE after receiving the

rejection message, and the UE reapplies to receive the MBMS bearer service through

the unicast mode if the MBMS bearer capabilities of the UE are less than the Required

MBMS Bearer Capabilities.

11.   (previously presented) The method according to Claim 3, wherein the rejection

message carries the Required MBMS Bearer Capabilities, the UE compares the

Required MBMS Bearer Capabilities with the MBMS bearer capabilities of the UE after

receiving the rejection message, and the UE reapplies to receive the MBMS bearer

service through the unicast mode if the MBMS bearer capabilities of the UE are less

than the Required MBMS Bearer Capabilities and the GGSN does not return back to the

IP multicast access of the a unicast mode.

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12.   (original) The method according to Claim 1, wherein in the Step b, if the SGSN

has not the Required MBMS Bearer Capabilities and if the MBMS bearer capabilities of

the UE are less than the Required MBMS Bearer Capabilities, the SGSN deactivates

the created MBMS UE Context, and sends a failure message to a GGSN; the GGSN

receives the failure message and decides whether to return back to an IP multicast

access of a unicast mode.

13.   (original) The method according to Claim 12, further comprising:

       receiving a rejection message sent from the SGSN ;

       activating a timer;

       verifying whether the GGSN having returned back to the IP multicast access of

the unicast mode before time-out of the timer, stopping the timer if the GGSN having

returned back to the IP multicast access of the unicast mode before time-out of the

timer, and reapplying to receive the MBMS bearer service through the unicast mode if

the timer being overtime.

14.   (original) The method according to Claim 12, wherein the SGSN sends the failure

message to the GGSN which creates a PDP Context with the UE, or to the GGSN

which creates an MBMS UE Context with the UE.

15.   (previously presented) The method according to Claim 22, wherein the rejection

message carries the Required MBMS Bearer Capabilities, the UE compares the

Required MBMS Bearer Capabilities with the MBMS bearer capabilities of the UE after

receiving the rejection message, and the UE reapplies to receive the MBMS bearer

service through the unicast mode if the MBMS bearer capabilities of the UE are less

than the Required MBMS Bearer Capabilities and the GGSN does not return back to the

IP multicast access of the unicast mode.

16.   (original) The method according to Claim 1, wherein in Step b, if the SGSN has

no the Required MBMS Bearer Capabilities, the SGSN creates an MBMS UE Context; if

the MBMS bearer capabilities of the UE are less than the Required MBMS Bearer

Capabilities, the UE reapplies to receive the MBMS bearer service through the unicast

mode after the SGSN deactivates the created MBMS UE Context or after the UE

receives a rejection message sent from the SGSN.

17.   (original) The method according to Claim 16, wherein the rejection message sent

from the SGSN to the UE carries the Required MBMS Bearer Capabilities; the UE

compares the Required MBMS Bearer Capabilities with the MBMS bearer capabilities of

the UE after receiving the rejection message, and the UE reapplies to receive the

MBMS bearer service through the unicast mode if the MBMS bearer capabilities of the

UE are less than the Required MBMS Bearer Capabilities.

18.   (cancelled).

19.   (cancelled).

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20.   (previously presented) The method according to Claim 6, further comprising:

        receiving the rejection message;

        activating a timer;

        verifying whether the GGSN having returned back to the IP multicast access of

the unicast mode before time-out of the timer, stopping the timer if the GGSN having

returned back to the IP multicast access of the unicast mode before time-out of the

timer, and reapplying to receive the MBMS bearer service through the unicast mode if

the timer being overtime.

21.   (previously presented) The method according to Claim 6, wherein the rejection

message carries the Required MBMS Bearer Capabilities, the UE compares the

Required MBMS Bearer Capabilities with the MBMS bearer capabilities of the UE after

receiving the rejection message, and the UE reapplies to receive the MBMS bearer

service through the unicast mode if the MBMS bearer capabilities of the UE are less

than the Required MBMS Bearer Capabilities and the GGSN does not return back to the

IP multicast access of the unicast mode.

22.   (previously presented) The method according to Claim 12, further comprising:

        sending a rejection message to the UE if the MBMS bearer capabilities of the UE

are less than the Required MBMS Bearer Capabilities.

23.   **(New) A Serving GPRS Support Node (SGSN) for activating a Multimedia**

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Broadcast/Multicast Service (MBMS) comprising:

a first unit, adapted to receive a message which carries MBMS bearer capabilities

of a user equipment (UE) from the UE after the UE has passed an authorization;

a second unit, adapted to verify, before the SGSN sending a Create MBMS

Context Request, whether the MBMS bearer capabilities of the UE are less than

Required MBMS Bearer Capabilities when the SGSN knows the Required MBMS

Bearer Capabilities; and

a third unit, adapted to reject a request for activating an MBMS Context If

the MBMS bearer capabilities of the UE are less than the Required MBMS Bearer

Capabilities, or create an MBMS UE Context if the MBMS bearer capabilities of the

UE are not less than the Required MBMS Bearer Capabilities.

24.   (New) The SGSN according to claim 23, further comprising:

a fourth unit, adapted to send a rejection message which carries a rejection

reason to the UE.

25.   (New) The SGSN according to claim 23, further comprising:

a fifth unit, adapted to send a failure message which carries a failure

reason to a Gateway GPRS Support Node (GGSN).